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ABSTRACT

Presented at the ASHA-AMA 12th Annual Pre-Convention Session on School Health (Chicago, June 21, 1970), the paper discusses children who have a specific learning disability. Terminology is considered and specific learning disability defined. Attention is given to how the learning disabled child is different, the significance of statistical incidence figures, and the types and severity of learning disabilities. The role of the physician in this area is defined--early identification of potential learning disabilities, diagnosis and treatment of any medical conditions, and referral and consultation with appropriate educational and psychological services for treatment and evaluation of the learning disorder itself. The difficulties and inadequacies of medical examinations for physical causes are noted. (KW)

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"Learning Disabilities: Implications for Medicine and Education"

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DR. HAROLD J. McGRADY, Ph.D. (Director, Program in Learning Disabilities, Northwestern University):

A number of issues will be brought to the attention of the public, the medical profession, and the paramedical people during the next few days. I doubt if many of these issues touch more homes or affect more people than the problem of dealing with children who have a specific learning disability. I doubt if a day goes by in a pediatric practice when the physician is not asked about the hyper-active child, or, "Doctor, is my child's brain damaged or perceptionally handicapped?"

Similarly, the psychiatrist is faced with parents who wonder if their child's school failure is due to emotional disturbance. And the ophthalmologist is asked continually whether a child's reading problem may be due to some visual defect. And the otologist may see children who do not speak because they may be suspected of not hearing.

Learning disabilities are so ubiquitous that no family physician or medical specialist or paramedical specialist escapes exposure to them.

Not the least of these is the neurologist who is often called upon to make delicate decisions about the presence or absence of cerebral dysfunction.

Although these problems are ever-present, there is utter confusion about exactly what learning disabilities are, and

what to do about them. Not the least of our concerns is the overwhelming divergence of terminology. It is an Alice in Wonderland situation, reminiscent of the classical Humpty Dumpty anecdote, where Humpty Dumpty, "That's glory for you, " and he is asked what glory is. "Glory," he said, "is a nice, knock down argument."

"But that is not what glory is, "said Alice.

"A word," replied Humpty, "is just what I mean it to say, nothing more and nothing less."

Yes, words are just what we mean them to say, nothing more and nothing less. And much of our terminology is nothing more than some form of pedagogical mysticism. For example, some persons refer to any child with a reading disability as dyslexic.

Others use the term only for children whose reading disability is associated with some form of minimal brain dysfunction. Others say the word dyslexia is useless and probably should be eliminated. There is a major committee on dyslexia which is considering that, as a matter of fact.

So we must understand first to communicate with each other about what we mean by learning disabilities. And here I really prefer to use the term "specific learning disabilities."

I am very pleased that in the recent legislation which has just been passed under the Elementary and Secondary Education Act there is a special provision for learning disabilities in which it is referred to as "specific learning disabilities."

We do have a currently accepted definition. If you want an authority, we have a government definition now from the U.S. Office of Education, which indicates that:

"Children with specific learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written languages. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing or motor handicaps, to mental retardation, emotional disturbance or to environmental disadvantage.

So the child with specific learning disabilities is not mentally retarded. We do asume that his intellectual potential is at least normal.

He is not disadvantaged. That is not to say that a particular disadvantaged child might not have a learning disability. Any of these conditions can occur in combination. But specific learning disability is not due to disadvantage per se.

He is not deaf, or blind, or partially sighted or hard of hearing. And he is not emotionally disturbed as the basic etiology of his disorder.

In other words, he does not have a psychosis or a neurosis or emotional block that is presumably causing him not to learn.

Now, of course, this is where we get a rather sticky wicket. The child with learning disabilities may, and in most cases I have to say will, develop emotional and social problems. He may be aggressive or withdrawn or show other symptoms, but in the case of learning disabilities these are the result of the condition and not the cause.

This obviously is the most difficult diagnostic problem and the one which I feel needs perhaps the most clarification through research.

However, perhaps one of the best diagnostic techniques is to teach the child through special methods. If he responds to such special methods his emotional symptoms will lessen. The proof of the pudding is in the learning that takes place, which in turn relieves the superficial symptoms.

We also have to consider motor disorders of a severe nature. Children with severe motor disorders such as cerebral palsies, are not learning disabilities <u>per se</u>. Again, they will usually have concomitant learning disabilities due to their neurological disturbance.

The point of having this definition is that we are assuming that children with learning disabilities must be treated differently from these other conditions.

Although there are techniques which are used with these other disorders that may be applicable to learning disabilities, the management of learning disabilities children is unique and has its own principles separate from these other handicapping conditions.

I would like to summarize it in this way: The retarded child must be taught to live within his intellectual limits, and he is usually

taught at a slower rate than normal. Of course, the critical factor here is determining what his limits are.

The disadvantaged child primarily needs to be exposed to experiences from which he has been deprived.

The emotionally disturbed needs counseling or psychiatric treatment, rather than educational modification as such. And the sensorially deprived must learn to compensate for a lost channel of input of information. The crippled must learn motor skills through various types of therapy, or compensate for those motor activity difficulties which he will not be able to develop.

But the learning disabilites child is different. He is a child with normal or above potential. Therefore, it is the goal of education for learning disabilities children to return them to regular classrooms. The major goal is to teach them how to learn. They must learn how to learn.

Most normal children learn by almost any method of teaching. For example, most children learn to read regardless of the method used to teach reading. Thus, they will perform adequately in school and in society if they are exposed to the normal variations in the regular curriculum.

This is not true of the learning disabilities child. He will not learn properly, except by the particular combination of techniques which correspond to the nature of his learning system, that is, his psycho-neuro-logical makeup. This child must be taught individually, according to his assets and deficits.

Thus, a basic principle for dealing with learning disabilities children is that each is unique and must be taught according to

that uniqueness.

Definition is only part of the confusion. We are also misled by conflicting incidence figures regarding learning disability. The figures vary dramatically, because each is dependent upon the definition of learning disabilities.

We tend to quantify our pedagogical mysticism, thus creating statistical mysticism, which is more likely to be accepted because we have quantified it. If you use test scores, your decision will depend on where you set your cutoffs. It will depend on what types of things the child must be low in,to be considered a problem.

We all know of persons who are atrocious spellers, for example. There may be some in this room. They may speak, read, and produce written thought with great competence, but have difficulty spelling. Do these persons have a specific learning disability? They do, if you view spelling as an area of concern and academic necessity. Thus, if you see a child whose only low achievement score is spelling, you would classify him as a learning disability.

But is such a score the proper criterion for saying that a child has a disability? Perhaps he can use a dictionary well, and he circumvents this in his writing. Perhaps as an adult he has a good secretary who corrects his spelling. Perhaps he becomes a physician and writes so illegibly that no one knows whether he is spelling right or not. (Laughter)

So, some children,who are arbitrarily classified as having a learning disability, may be only what I call a "paper learning disability."

This is the child who only has a learning disability on paper. His achievement score, his test profile or whatever you might use, does not necessarily accurately or validly indicate a disability or handicap. It is only a handicap if it keeps him from fulfilling himself in his life needs and goals.

Handicap is socially determined. A low test score, a scattered psychological profile means nothing if it is not reflected by poor performance in life. This emphasizes the need to be wary of one-shot diagnosis. Be wary of one-test determinations of learning disabilities. And be wary of mass screening as a final say for categorization.

Whatever we say, the incidence figures for learning disabilities depend solely upon your definition. Persons who quote high figures for learning disabilities usually are referring to underachievement. That is, there are many children who are achieving under their potential, at least in one specific thing. If you give enough tests, you can always find something that they are low in.

I suspect there is not a person in this room we could not do that with. I remember when I was in 7th grade, when I knew everything. One of my teachers said, "You know everbody is handicapped."

I said," you're crazy. I'm not. Not me."

But he was right. There is not anybody that you could find that does not have a deficit, if you look for it. You can always find a specific disability if you define it as such.

I could give you another incidence figure that no one can challenge. Do you realize that one-half of the children in the United States read

below average. (Laughter) Thats an indisputable fact no matter what measure you use. One-half of the children must be below average.

Now, of course, one-half are also above average. It depends on whether you are an optimist or a pessimist.

Take this concept a little bit further, and it is possible to state any incidence figure that you wish. Now if you set a cutoff point for reading disorders so that you say you will take the lowest ten percent, or five percent of the children who are going to show you learning disabilities, just by your definition.

So you can even get a mass government teaching program to raise the level of reading in the entire country, and when you are done, you will still have children who are in the lower five percent. (Laughter)

In other words, we must not continue to define learning disability by the curve. It is the old thing of when you were in college, and the professor was grading on the curve. We will continue to have a certain percentage of learning disability forever at that rate.

We have to get away from this concept, and define learning and its disabilities according to competencies and skills, not age levels, not grade levels, not percentiles.

For example, can the child recognize all the letters? Can he say them? Can he recognize so many words? Can he sound out so many words? Etc. etc.

In the educational and psychological professions we must move in

the direction of defining the competencies needed for reading, writing, spelling, arithmetic, or whatever. We must know the processes by which and through which a child learns these tasks. Then we must designate where he is failing, in these processes. We know he cannot read. We want to know why, so we can teach him.

Only when we start defining learning disabilities in this way will we have any statistical incidence figures that will mean anything.

I am content to tell you that 10 or 15 percent of all school children are having significant learning disabilities. But I am also of the opinion that the classical, clinical cases of minimal brain dysfunction, the ones you read about in the books, the textbook learning disabilities, are a much smaller percentage, maybe even closer to one percent or less.

What about the types and severity of these disorders? We get a further confusion concerning definition and incidence because there are a multitude of different types, and within each of these types there is a wide continuum of severity of the disorder. This is the reason there are so many different types of learning disabilities. I think it is really that simple. You cannot tell the players without a program. It is difficult indeed to catalog all the types of learning disabilities.

Reading, writing, spelling, or calculation difficulties are prevalent terms used if you are tuned to academic learning disabilities. Problems of oral language, comprehension and expression will be important if you are dealing with pre-school children who are having learning problems. And there are a variety of more specific deficits which may be acute and affect aspects of learning. These include auditory or visual perceptual problems, memory problems; and you could mention other specific

non-verbal learning disorders.

Anyone dealing with learning disabilities must become familiar with these terminologies. Learning disabilities are not a homogeneous group in any exact sense. They are homogeneous only in that they consist of specific learning deficits in spite of adequate potential; but the types and severities of disorders are extremely heterogeneous.

Assuming that we can at least communicate, using some kind of operational definition, I would like to now address a major issue. That is the early identification of such children. One way to highlight this need is to have some knowledge of their prognosis.

Several years ago, I became interested in a group of children who were characterized by their inability to comprehend oral language or to express themselves in oral language. These were children who had been identified as having language learning disabilities at about the age of two to five years. They were pre-school children. They typically had been brought to our clinic at the ages of two to five because they were not talking, or they were not talking and also had some trouble listening. In many instances the parents had been concerned about their language development for months or even years. Unfortunately, many had been advised, "Don't worry. He'll grow out of it."

They were also told the tales about people who had not talked until late ages -- Einstein, for one; "Aunt Minnie didn't talk until she was eight, and now you can't shut her up," and so forth. (Laughter) So the general policy of doing nothing was followed.

One of my major beliefs is that concern for these children must begin early. It appears, from my longitudinal study of these children that

the problems of language encountered in early childhood persist into early school age, adolescence, and adulthood. They will learn to talk, they will learn to understand language, but apparently their understanding and use of language is not as complete as their normal peers.

In other words, the offshoot of childhood langugage disorders are reading, writing, arithmetic, spelling and other academic problems in later life.

There is a strong implication from this longitudinal study that aphasic children have disorders of language that carry over into all aspects of achievement, particularly if they are not given early, intensive treatment. Most of them require not only treatment but intensive treatment, because these children were the ones who were brought in and they did get early treatment, but most of them did not get early, intensive treatment.

I think that their problems stem from the fact that childhood aphasia is a disorder of thinking. When one does not have the mastery of language, his thinking processes are modified, and obviously this affects academics.

What is just as evident, however, when we study these children over years, is that they also develop behavioral and social problems as a result of their incapacity to compete in what we must classify as a very verbal society. I find many effects on academic performance. Most of the aphasics who had comprehension dificulties had the more severe problem in getting along in school. If they had problems understanding language as a child, they had greater difficulties in school. Many of these received outside help. Most of the aphasics of this nature had special tutors, resource teachers. even learning disabilities teachers, and they improved to some degree. Many of them went to special classes. Those who had good comprehension but were not able to express themselves well succeeded better in the public schools, al-

though many of them also had to go into special educational classes of remedial reading, speech therapy, or whatever.

What I said to this point might sound a little pessimistic. Here we are talking about children who had some training, who were picked up at the age of two to five, and yet they had much trouble later in school life.

I believe, first of all, that their language was more fully developed than it probably would have been had they not had the training, although we have no control group to demonstrate this.

Also, we have to point out that these children were identified and discovered at a time when the emphasis was on diagnosis and not remediation. Many of them received remedial work that was patch work, the best we could obtain wherever the child was sent back into his community. These children were in need of services that were not often available; and I must say, I suppose that in some cases this is still true today, but the services are much more available than they were 10 or 15 years ago.

I feel that we must move towards earlier identification of the specific nature of these children's learning disabilities. This means that some provision must be made for identification of some types of learning disabilities prior to current school age.

The move in American education is downward and to provide formal education for three year olds and four year olds. This will mean that more of these children will be identified earlier by school health personnel.

As is often said in the case of reading that the early elementary years are used to "learn to read". After that the child "reads to learn". The early academic years must be used to establish proper learning strategies among children who need special help. As they pass from their elementary years into junior high school and high school, we still must continue to

remediate the residual learning disability, but often our emphasis will turn to guidance and counseling. In this way the person may learn to compensate for and deal with unresolved learning difficulties.

Thus, we feel that pre-school years must emphasize early identification and appropriate remediation. Early school years must emphasize "the learning to learn" aspects of performing academically. And later school years must be devoted to guidance and counseling for these youngsters. This is not to say that each of these aspects is not important at all age levels, but it seems that this kind of emphasis is appropriate.

What then is the role of medicine in the field of learning disabilities? It is often the family physician or the pediatrician to whom the parents of a learning disabilities child first turn. The advice given at that inquiry may be critical to this child's future. The physician's most pressing responsibility is to be thorough and searching about the judgments that are made at that time. It is important that we not pass off potential learning disorders too quickly.

In instances where the child is a high risk -- let's say he has some evidence of prenatal or paranatal difficulties, or where his behavior history has some question marks, we must look thoroughly at that child. I do not mean that we should create problems when they do not exist; but we must consider every possibility when any abnormalities occur.

I think in nursing there is a saying, isn't there, that when you see one thing wrong you look for two more. Perhaps this is the kind of philosophy to use.

What the physician says may be heeded long after the facts warrant it, simply because of his position of authority; as in the case of parents of a late talking child who may be told that he will outgrow it and they fail to

get valuable and available language training at critical stages in his development.

In busy practice, it is impossible to give the optimun amount of care or attention to every patient, especially in a well-baby clinic. But it is necessary that children with potential learning disabilities be examined closely and referred to proper medical, psychological, and educational services early.

The physician has had a long involvement in dealing with children who have learning disabilities. The concept of brain damaged children was initiated by Werner and Strauss in their work with retarded children. Werner was a psychologist; Strauss was a physician. They noted different behaviors in exogenous retarded children as compared to endogenous retarded children. This concept was extended to children with normal potential and hyperactivity, distractibility, and disinhibition, and has become accepted as evidence of brain injury.

Many early contributions were made by physicians. Early descriptions of dyslexia were given by Hinshelwood in England. Hermann, in Scandanavia, and Critchley in England, are more recent examples. Dr. Samuel T. Orton, in the United States, wrote "Reading, Writing and Speech Problems in Children," a classic book. That was in 1937; and I swear, you can go to pages in that book and read descriptions of children that will match children you will see every day of the week.

But now we are at the era where the role of the medical professions needs further structuring and clarification.

Just how much of learning disability is brain damage? This is where the proof gets a little hazy and inconclusive. You will read one study that says 75 or 80 percent of learning disability children have abnormal EEG's or or abnormal neurological findings.

Another study will state that 50 percent of normal children also have abnormal EGG's or neurological studies. We have some confusion about what is normal and what is abnormal in these areas.

As part of a larger study at Northwestern University, some of these factors were explored--that is, what are the medical correlaties of learning disabilities? In the process of this, some of the inadequacies of clinical examinations were noted. For example, 20 children were picked at random from a group of third and fourth grade children, with and without learning disabilities. These 20 children had been given a formalized pediatric neurological exam by one neurologist who served as an examiner for the entire project. Then two neurologists, not otherwise involved with the project and very highly trained, were asked to examine the children, using the same procedures and check-lists. These two visiting neurologists saw 20 children on the same day. The project neurologist had seen them no longer than 30 days prior to tnis. In no case did the neurologists know whetheror not the child had a learning disability.

Each of these neurologists classified the children as "Normal","Abnormal," or "Suspect," meaning kind of borderline, neurologically, according to certain criteria from the neurological exam.

All three examiners agreed on only 8 of the 20 subjects in their general classification. The three agreed with each other on 10, 12, and 13 cases respectively. Statistical analysis showed this was different statistically. So inter-examiner reliability for neurological classification. (reliability between examiners) was found to be very poor in this study. Keep in mind, however, that we were dealing only with children normal enough to be in a regular third and fourth grade class. They were not chosen on the basis of known neurological dysfunctions, such as epilepsy, hyperkinesia, and so forth. So we should not conclude that neurological examinations

are unreliable.

We provided these neurologists with a small number of the most minimal cases of neurological disturbances. What we must conclude is that standard clinical neurological examination alone is not adequate to determine whether children have specific learning disabilities due to minimal brain dysfunction.

You see, in our study, we presented the neurologists with an impossible task. We almost literally sent them looking for the needle in the haystack. One of the neurologists had a very good analogy here. He said that the techniques that we used are so gross that it is analogous to going fishing for sardines and using a whale net. You see, a lot of sardines are there. You just do not catch them.

Our current clinical techniques are simple too gross to expect the neurologist to decide for such children whether the problem is "neurological" or "not neurological" on the basis of this kind of an examination.

Also, it might be mentioned that intra-examiner reliability was a little bit better. If we had the same neurologist see the same child a second time blind, not knowing what he had said about the child earlier, and he saw enough children that he did not remember them, he was in agreement 84 percent of the time with himself.

Perhaps some further comments concerning classifications of children as "normal" or "abnormal" are in order. A further analysis shows us more specifically that, there is little difference between normal and learning disabilities children in terms of the number of normal or abnormal

neurological exams noted; but(2) more severe the neurological abnormality noted the more likely the child is to have a learning disability. We can see this in TABLE - 1.

We merely state the percentage of normal and abnormal. We find a slightly higher percentage of learning disabilities children with abnormal findings. They get 49 percent, as compared to the normal children who only show 38 percent being abnormal.

But if we look at these classifications in more detail, breaking down the abnormal cases according to degree of abnormality.(Now it is just not "normal" and"abnormal", "but normal," "suspect, " "mild," moderate", and "severe") We see an important figure-TABLE II. That is that 6% of learning disabilities children showed moderate neurological involvement, while no normal children were so classified.

There was little difference between the groups of children in "suspect" and in the "mild" classifications. So you see, the more abnormal the rating on the neurological, themore likely you could be safe in saying that the child probably has a concomitant learning disability. The fact that no child in this sample (learning disabilities or normal) had a severe neurological development demonstrates what we noted earlier: that these were primarily children with minimal or no neurological involvement.

It is significant that every one of the children who was classified as "moderate abnormal" neurologically demonstrated a type of specific learning disability. Although this was 6 percent of the portion of the learning disabilities population, the learning disability population was about 14 percent of the total sample. So this means that if you gave neurological exams to everybody in a school district,you would expect only 84 percent, (less than 1 percent) of your

TABLE I

GROUP	NEUROLOGICAL CLASSIFICATION: Normal	Abnormal
Normal (N=203)	62%	38%
Learning Disability (N=203)	51%	49%

TABLE II

Analysis of Abnormal Neurological Classifications By Degree Of Involvement (Percentages)

	DEGREE OF INVOLVEMENT				
GROUP	Normal	Suspect	Mild	Moderate	Severe
Normal	62	21	17	0	0
Learning Disability	51	22	21	6	0

children, to come out with a "moderately abnormal" neurological exam.

This certainly does not lend support to the notion that a child must demonstrate abnormal neurological findings or be classified by a neurologist as abnormal in order to be categorized as a learning disability.

There is also some subjectivity about electroencephalographic findings. Some follow-up on this too and individual readers varied in their consistency of interpretation. For example, in this study, EEG specialists were asked to re-read 20 records pulled at random. Their consistency in simply reclassifying an normal-abnormal dichotomy (Normal or Abnormal,) varied from 85 percent to 100 percent. One reader was able to agree with himself every time out of 20 records. He is very reliable. We do not know whether he is valid, but he is reliable. (Laughter) And that is an important point to remember in any kin d of measure, by the way. You can apply this to any kind of psychological record, you can apply this to any kind of test that you can think of. Very reliable, but we are not so sure about the validity, you see.

When we compared two readers on two separate sets of readings, we found that they agreed sometimes 60 percent, sometimes 70 percent, and so forth.

What about the results of EEG classification as an index of learning disability? Well, I have one more table.

Note in TABLE III that even the children without learning disabilities showed EEG abnormalities in 29 percent of the cases. All we can say is that there is a higher probability of getting an abnormality if the child has a learning disability. It is 42 percent instead of 29 percent. The only tning we do not know if we merely see the EEG, is whether the child has a learning disability, or whether he just is one of the nearly 30 percent of normal children who have abnormal EEG findings.

TABLE III

GROUP	EEG CLASSIFICATION	
	Normal	Abnormal
Normal (N=200)	71%	29%
Learning Disability (N=200)	58%	42%

So you see that the mere use of a neurological exam or an EEG to determine the presence or absence of learning disability is fruitless. The only way you determine whether a child has a learning disability is to measure his learning. The presence or absence of learning disability can only be established by testing the child's learning. There is no way to take an abnormal EEg or neurological exam and predict with any certainty that he has a learning disability. Neither is there evidence that you can take particular items under the neurological, or particular waves under the EEG--and correlate them with specific learning disabilities. The presence or absence of learning disabilities must be determined by psychological and educational assessment. Whether or not the condition is due to minimal brain dysfunction in most cases is a moot question.

The treatment for the child will usually be educational and remedial in nature and not medical. Why then, you say, should the physician be involved at all?

I believe that in the past we have involved the physican for the wrong reasons. The child with learning disability has been sent to the pediatrician, for example to determine whether or not the problem was organic. Now, if the physician found no basis for a organic deficit the child was branded as a functional problem, usually emotionally disturbed. The reliability studies which I just reported I hope demonstrate to you the folly of this procedure. Our measurement techniques are still too gross to expect valid results.

The role of the physician should <u>not</u> be to determine whether or not the child has a learning disability. His role should <u>not</u> be to determine solely whether the problem is organic or non-organic, per se. The role of the physician is quite simple, but extremely vital. He must determine whether medical treatment of the child is warranted. And he must prescribe and follow through

on such treatment when deemed necessary.

Now, of course, he has to determine organic conditions to do this, but because he does not find an organic condition does not mean that organicity is not present.

By medical treatment we imply a wide range of diagnostic and therapeutic procedures. In evaluating a child with suspected learning disabilities, the family physician obviously plays a key role in guiding the parents to proper sources of help. From the medical standpoint, it is his responsibility to assure that a thorough medical diagnosis is completed, including whatever consulting specialists are required for a particular case.

For example, if a visual problem, hearing problems, or growth and metabolism or body chemistry difficulties are suspected, specialists must be brought into the picture. I feel that the physician's role is, first, to determine whether or not there is any progressive or chronic medical condition present in the child.

I recall critical instances, for example, when a child whose learning seemed suddenly to change was found to have a tumor, or a type of progressive metabolic disorder. It is vital, of course, that such conditions by identified and only the medical profession can accomplish this.

Educators and psychologists must be particularly aware of this and not exclude the medical exam for children who they think have minor types of problems. Although only a small percentage of such children with specific learning disabilities will be found to have readily identifiable and treatable medical disorders, those which are discovered are extremely critical.

Also, medical diagnosis must include a determination of the feasibility of such medical intervention as drug therapy, or surgical procedures. Often the

use of drugs is useful with children having specific learning disabilities, although there is a certain amount of mysticism and confusion about this too. The major problem in drug therapy is that it has individualized effects on specific children; therefore, they must be monitored very carefully.

The most common problem that we see with drug treatment is a lack of communication between the parent and the doctor while certain drugs are being tried. Nonetheless, the determination of the feasibility and the prescription and the administration of drugs is solidly a medical procedure and responsibility. It is a very important cog in the total program of rehabilitation of the child with learning disabilities.

Also, the medical profession must rule out other contributing medical conditions, such as primary psychiatric conditions, visual or hearing deficits, and so forth.

In summary, the role of the physician is to, first, identify potential learning disabilities early. Second, to diagnosis and treat any medical conditions that are identifiable. Third, to refer and consult with the appropriate educational and psychological services for treatment and evaluation of the learning disorder itself.

We, in the educational and psychological professions, are doing our best to improve our diagnostic and treatment techniques, as primitive as we must say they are at this stage of the art.

But no child can be served properly until medicine, psychology, and education work together in a total clinical approach to deal with this problem. To this end, we need more communication with each other during professional training, and more professional coordination in clinics for specific learning disabilities. It is in these phases that joint efforts of the American School Health Association and the American Medical Association will be most helpful.